

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

1. (Original) A granite block cut into slabs by a sawing device comprising a plurality of generally parallel, spaced-apart blades with each of the blades having a plurality of cutting segments mounted thereon, each of the cutting segments comprising a continuous phase impregnated with a superabrasive material selected from one of natural diamond, synthetic diamond, cubic boron nitride, and combinations thereof;

wherein each of the granite slabs as cut from the block has a surface roughness R_a of less than 1000 $\mu\text{-in}$.

2. (Original) The as-cut granite slabs of claim 1, wherein each of the as-cut granite slabs has a surface roughness R_a of less than 500 $\mu\text{-in}$.

3. (Original) The as-cut granite slabs of claim 1, wherein each of the as-cut granite slabs has a mean thickness variation of less than 20% of the thickness of a nominal slab target.

4. (Original) The as-cut granite slabs of claim 3, wherein each of the as-cut granite slabs has a mean thickness variation of less than 10% of the thickness of a nominal slab target.

5. (Currently Amended) The as-cut granite slabs of claim 1, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 10,000 $\mu\text{-in}$ $\mu\text{-in}$, and a maximum peak-to-valley height R_{max} of less than 10,000 $\mu\text{-in}$.

6. (Currently Amended) The as-cut granite slabs of claim 5, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 5,000 $\mu\text{-in}$ $\mu\text{-in}$, and a maximum peak-to-valley height R_{max} of less than 5,000 $\mu\text{-in}$ $\mu\text{-in}$.

7. (Currently Amended) The as-cut granite slabs of claim 6, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 4,000 $\mu\text{-in}$ and a maximum peak-to-valley height R_{max} of less than 4,000 $\mu\text{-in}$.
8. (Currently Amended) A method for cutting a granite block into slabs, said method comprising comprising the step steps of subjecting said block to a cutting device comprising:
 - providing a granite block;
 - cutting said granite block with a cutting device, the cutting device comprising:
 - a plurality of generally parallel, spaced-apart blades, with each of the blades having a plurality of cutting segments mounted thereon,
 - each of the segments being spaced apart from one another by a center-to-center distance,
 - each of the segments comprising a continuous phase impregnated with a superabrasive material selected from one of natural diamond, synthetic diamond, cubic boron nitride, and combinations thereof; wherein there is a spacing variation of at least 1 mm between a maximum center-to-center distance and a minimum center-to-center distance of the segments; and
 - wherein each of the granite slabs as cut from the block by said cutting device has a surface roughness R_a of less than 1000 $\mu\text{-in}$.
 - producing granite slabs from the granite block by said cutting device, each granite slab having a surface roughness R_a of less than 1000 $\mu\text{-in}$.
9. (Original) The method of claim 8, wherein each of the as-cut granite slabs has a surface roughness R_a of less than 500 $\mu\text{-in}$.
10. (Original) The method of claim 8, wherein each of the as-cut granite slabs has a mean thickness variation of less than 20% of the thickness of a nominal slab target.
11. (Original) The method of claim 10, wherein each of the as-cut granite slabs has a mean thickness variation of less than 10% of the thickness of a nominal slab target.

12. (Currently Amended) The method of claim 8, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 10,000 $\mu\text{-in}$, and a maximum peak-to-valley height R_{max} of less than 10,000 $\mu\text{-in}$.

13. (Currently Amended) The method of claim 12, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 5,000 $\mu\text{-in}$, and a maximum peak-to-valley height R_{max} of less than 5,000 $\mu\text{-in}$.

14. (Currently Amended) The method of claim 13, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 4,000 $\mu\text{-in}$, and a maximum peak-to-valley height R_{max} of less than 4,000 $\mu\text{-in}$.

15. (Currently Amended) A method for cutting a granite block into slabs, ~~with the as-cut granite slabs having an as-cut surface roughness R_a of less than 1000 $\mu\text{-in}$, and a mean thickness variation of less than 20% of the thickness of a nominal slab target, by employing a cutting device comprising the steps of:~~

providing a granite slab;

cutting the granite slab with a cutting device, the cutting device comprising:

a plurality of generally parallel, spaced-apart blades with each of the blades having a plurality of cutting segments mounted thereon,

each of the cutting segments comprising a continuous phase impregnated with a superabrasive material selected from one of natural diamond, synthetic diamond, cubic boron nitride, and combinations thereof;

each of the cutting segments having a wear resistance property varying at least 10% from at least another segment mounted on the same blade, wherein the varied wear resistance property is selected from the group of a) center-to-center spacing of the segments along the length of the blade; b) concentration of superabrasive materials in each segment; c) grade of superabrasive materials in each segment as measured by its compressive fracture

strength; d) composition of superabrasive materials in each segment; and e) length of the segment; and

producing granite slabs wherein the granite slabs have an as-cut surface roughness R_a of less than 1000 $\mu\text{-in.}$, and a mean thickness variation of less than 20% of the thickness of a nominal slab target.

16. (Currently Amended) The method of claim 15, wherein the as-cut granite slabs have a mean thickness variation of less than 10% of the thickness of a nominal slab target.

17. (Currently Amended) The method of claim 15, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 10,000 $\mu\text{-in}$ $\mu\text{-in.}$, and a maximum peak-to-valley height R_{max} of less than 10,000 $\mu\text{-in}$.

18. (Currently Amended) The method of claim 13 15, wherein each of the as-cut granite slabs has an ISO 10-point height parameter R_z of less than 4,000 $\mu\text{-in}$ $\mu\text{-in.}$, and a maximum peak-to-valley height R_{max} of less than 4,000 $\mu\text{-in}$ $\mu\text{-in.}$

19. (Currently Amended) A method for cutting a granite block into slabs with an excess cut width (t_{xs}) of less than 2 mm, said method ~~comprises comprising~~ comprising the steps ~~step~~ of subjecting said granite block to a cutting device comprising:

providing a granite block;

cutting said granite block with a cutting device, the cutting device comprising:

a plurality of generally parallel, spaced-apart blades with each of the blades having a plurality of cutting segments mounted thereon, and

each of the cutting segments comprising a continuous phase impregnated with a superabrasive material selected from one of natural diamond, synthetic diamond, cubic boron nitride, and combinations thereof; and

producing granite slabs.

20. (Original) The method of claim 19, wherein said excess cut width (t_{xs}) is less than 1mm.